RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/813,908A
Source: IFW16
Date Processed by STIC: 10/28/05

ENTERED

IFW16

RAW SEQUENCE LISTING DATE: 10/28/2005
PATENT APPLICATION: **US/10/813,908A** TIME: 11:39:21

Input Set : **A:\Sequence Listing.txt**
Output Set: **N:\CRF4\10272005\J813908A.raw**

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 3 <110> APPLICANT: Frey, Joachim
 4       Stuber, Katja
 5       Thornton, Julian C
 6       Kuzyk, Michael A.
 7       Burian, Jan
 9 <120> TITLE OF INVENTION: Type III Secretion Pathway in Aeromonas Salmonicida, and
Uses
10       Therefor
12 <130> FILE REFERENCE: UB001/2850/US
14 <140> CURRENT APPLICATION NUMBER: US 10/813,908A
15 <141> CURRENT FILING DATE: 2004-03-26
17 <150> PRIOR APPLICATION NUMBER: US 10/416,902
18 <151> PRIOR FILING DATE: 2001-11-15
20 <150> PRIOR APPLICATION NUMBER: PCT/CA 01/01589
21 <151> PRIOR FILING DATE: 2001-11-15
23 <150> PRIOR APPLICATION NUMBER: US 60/248,864
24 <151> PRIOR FILING DATE: 2000-11-15
26 <160> NUMBER OF SEQ ID NOS: 15
28 <170> SOFTWARE: PatentIn version 3.3
30 <210> SEQ ID NO: 1
31 <211> LENGTH: 47
32 <212> TYPE: PRT
33 <213> ORGANISM: Aeromonas salmonicida
35 <400> SEQUENCE: 1
37 Glu Leu Lys Arg Leu Ile Arg Leu Leu Pro Val Glu Leu Phe Ser Glu
38 1               5                  10                  15
41 Glu Glu Gln Arg Gln Asn Leu Leu Gln Cys Cys Gln Gly Ala Leu Asp
42             20                  25                  30
45 Asn Ala Ile Glu Arg Glu Glu Asp Glu Leu Ser Gly Glu Ser Ser
46         35                  40                  45
49 <210> SEQ ID NO: 2
50 <211> LENGTH: 123
51 <212> TYPE: PRT
52 <213> ORGANISM: Aeromonas salmonicida
54 <400> SEQUENCE: 2
56 Met Asn Trp Ile Glu Pro Leu Leu Val Gln Phe Cys Gln Asp Leu Gly
57 1               5                  10                  15
60 Ile Thr Ile Gly Asp Asn Pro His Ser Leu Ile Gln Leu Glu Leu Glu
61             20                  25                  30
64 Gln Ser Gly Thr Leu Gln Leu Glu Arg His Gln Gly Gln Leu Thr Leu
65         35                  40                  45
68 Trp Leu Ala Arg Ala Val Pro Trp His Gln Ser Gly Glu Ala Ile Arg
69     50                  55                  60
72 Arg Ala Met Thr Leu Thr Ala Ala Ala Gln Gly Pro Ala Leu Pro Val
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73 65                  70                  75                  80
76 Arg Ser Gly Trp Leu Gly Glu Glu Gln Leu Ile Leu Phe Val Ser Leu
77                 85                  90                  95
80 Asp Glu Arg Ala Val Thr Leu Pro Gln Leu His Gln Ala Val Thr Thr
81             100                 105                 110
84 Leu Thr Arg Leu Gln Arg Glu Val Leu Ala Ser
85         115                 120
88 <210> SEQ ID NO: 3
89 <211> LENGTH: 121
90 <212> TYPE: PRT
91 <213> ORGANISM: Aeromonas salmonicida
93 <400> SEQUENCE: 3
95 Met Ser Arg Ile Thr Ala Ala His Ile Gly Ile Glu Gln Leu Ser Ala
96 1               5                   10                  15
99 Ile Ser Leu Asp Asp Gln Glu Arg Ser Leu Pro Gly Arg Tyr Ala Leu
100            20                  25                  30
103 Leu Pro Asp Gly Gln Ser Ile Glu Pro His Ile Ser Arg Leu Tyr Pro
104         35                  40                  45
107 Glu Arg Leu Ala Asp Arg Val Leu Leu Asp Phe Ala Thr Pro Asp Arg
108     50                  55                  60
111 Gly Phe His Asp Leu Leu Arg Pro Val Asp Phe Asn Gln Ala Met Gln
112 65                  70                  75                  80
115 Gly Leu Arg Ser Val Leu Ala Glu Gly Gln Ser Pro Glu Leu Arg Ala
116                85                  90                  95
119 Ala Ala Ala Leu Leu Glu Gln Met His Ala Asp Glu Gln Leu Met Gln
120            100                 105                 110
123 Met Thr Leu His Leu Leu His Lys Val
124         115                 120
127 <210> SEQ ID NO: 4
128 <211> LENGTH: 116
129 <212> TYPE: PRT
130 <213> ORGANISM: Aeromonas salmonicida
132 <400> SEQUENCE: 4
134 Met Thr Met Val Leu Thr Ser Gln Gln Gln Asp Ala Leu Leu Leu Thr
135 1               5                   10                  15
138 Gly Trp Leu Gln Leu Gln Tyr Gly His Pro Asp Lys Ala Ser Val Leu
139            20                  25                  30
142 Leu Ala Ala Leu Leu Gln Ile His Pro Asp His Gln Gly Gly Arg Arg
143         35                  40                  45
146 Thr Leu Leu Val Ala Leu Leu Lys Gln Gly Glu Gly Glu Ala Ala Leu
147     50                  55                  60
150 Ala His Val Asp Gln Leu Met Gln Gln Gly Glu Ala Asp Gly Pro Leu
151 65                  70                  75                  80
154 Trp Leu Cys Arg Ser Arg Ala Cys Gln Leu Ala Gly Arg Leu Asp Glu
155                85                  90                  95
158 Ala Arg Phe Ala Tyr Gln Gln Tyr Leu Glu Leu Glu Glu Gln Asn Glu
159            100                 105                 110
162 Ser Thr His Pro
163         115
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166 <210> SEQ ID NO: 5
167 <211> LENGTH: 116
168 <212> TYPE: PRT
169 <213> ORGANISM: Aeromonas salmonicida
171 <400> SEQUENCE: 5
173 Met Thr Met Val Leu Thr Ser Gln Gln Gln Asp Ala Leu Leu Leu Thr
174 1               5                   10                  15
177 Gly Trp Leu Gln Leu Gln Tyr Gly His Pro Asp Lys Ala Ser Val Leu
178             20                  25                  30
181 Leu Ala Ala Leu Leu Gln Ile His Pro Asp His Gln Gly Gly Arg Arg
182         35                  40                  45
185 Thr Leu Leu Val Ala Leu Leu Lys Gln Gly Glu Gly Glu Ala Ala Leu
186     50                  55                  60
189 Ala His Val Asp Gln Leu Met Gln Gln Gly Glu Ala Asp Gly Pro Leu
190 65                  70                  75                  80
193 Trp Leu Cys Arg Ser Arg Ala Cys Gln Leu Ala Gly Arg Leu Asp Glu
194                 85                  90                  95
197 Ala Arg Phe Ala Tyr Gln Gln Tyr Leu Glu Leu Glu Glu Gln Asn Glu
198             100                 105                 110
201 Ser Thr His Pro
202         115
205 <210> SEQ ID NO: 6
206 <211> LENGTH: 93
207 <212> TYPE: PRT
208 <213> ORGANISM: Aeromonas salmonicida
210 <400> SEQUENCE: 6
212 Met Leu Val Arg Arg Glu Gly Glu Arg Ala Gly Leu Ala Asn Pro Phe
213 1               5                   10                  15
216 Ala Ala Leu Tyr Leu Leu Ala Glu Ala Thr Leu Ala Val Leu Gly Pro
217             20                  25                  30
220 Gly His Phe Leu Tyr Gly Asn Val Asp Val Phe Arg Ser Ser Ser Leu
221         35                  40                  45
224 Ser Ser Glu Arg Leu Gly Arg Phe Tyr Leu Arg Trp Thr Gly Ala Ser
225     50                  55                  60
228 Glu Pro Glu Pro Gly Trp Phe Met Leu Ala Thr Glu Gln Val Cys Ser
229 65                  70                  75                  80
232 Leu Arg Asp Met Arg Lys Arg Gln Lys His Gly Leu Ala
233                 85                  90
236 <210> SEQ ID NO: 7
237 <211> LENGTH: 94
238 <212> TYPE: PRT
239 <213> ORGANISM: Aeromonas salmonicida
241 <400> SEQUENCE: 7
243 Met Lys Gln Pro Arg Phe Ala Asp His Ser Glu Thr Ile Ser Gln Ala
244 1               5                   10                  15
247 Glu His Gly Ile Ala Asp Ser Asp His Arg Asn Ala Leu Leu Gln Glu
248             20                  25                  30
251 Met Leu Ala Gly Leu Ala Leu Ser Asp Gln Thr Cys Gln Leu Leu Phe
252         35                  40                  45
```

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Input Set : **A:\Sequence Listing.txt**
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```
255 Glu Ala Pro Thr Glu Gln Val Ala Val Ala Glu Gln Glu Leu Leu Ala
256     50                  55                  60
259 Glu Ile Gln Arg Arg Gln Ala Leu Leu Pro Ala Gln Pro Gly Glu Gly
260 65                  70                  75                  80
263 Arg Lys Ser Arg Arg Pro Thr Ile Met Arg Gly Leu Met Ile
264                 85                  90
267 <210> SEQ ID NO: 8
268 <211> LENGTH: 361
269 <212> TYPE: PRT
270 <213> ORGANISM: Aeromonas salmonicida
272 <400> SEQUENCE: 8
274 Met Ser Thr Ile Pro Asp Tyr Asn Thr Asn Pro Gly Ala Phe Val Gly
275 1               5                   10                  15
278 Trp Leu Asp Val Gln Ala Leu Asn Thr Leu Pro Gly Asn Lys Asn Pro
279             20                  25                  30
282 Lys Leu Thr Glu Leu Val Glu Leu Leu Lys Gly Lys Ile Thr Ile Ser
283         35                  40                  45
286 Ala Asp Ser Ser Thr Ala Leu Ser Lys Glu Gln Leu Glu Lys Leu Leu
287     50                  55                  60
290 Ala Ala Tyr Leu Thr Asp Pro Ala Ser Ile Asn Gly Gly Trp Ala Met
291 65                  70                  75                  80
294 Gly Gln Phe Lys Gly Gly Gln Asp Ala Ala Ile Ala Ala Ile Lys Gly
295                 85                  90                  95
298 Val Ile Glu Arg Gly Ala Lys Gln Thr Pro Pro Val Thr His Trp Thr
299             100                 105                 110
302 Ile Pro Glu Phe Met Leu Leu Ser Leu Ser Ala Leu Thr Met Glu Arg
303         115                 120                 125
306 Thr Asp Asp Asp Leu Ile Thr Thr Phe Thr Gly Val Met Met Phe Gln
307     130                 135                 140
310 Asp Asn Gln Arg Lys Gly Leu Arg Asp Glu Leu Ala Glu Met Thr Ala
311 145                 150                 155                 160
314 Glu Leu Lys Ile Tyr Gly Val Ile Gln Ser Glu Ile Asn Gln Val Leu
315                 165                 170                 175
318 Ser Ala Ala Ser Asn Gln Thr Phe Lys Thr Asn Phe Asn Leu Met Asp
319             180                 185                 190
322 Tyr Lys Leu Tyr Gly Tyr Glu Ser Leu Ala Lys Phe Met Glu Gly Gly
323         195                 200                 205
326 Glu Phe Lys Leu Leu Ser Lys Met Phe Ser Asp Glu Gln Val Thr Lys
327     210                 215                 220
330 Ala Gln Gln Asp Phe Thr Asn Ala Lys Asn Glu Leu Glu Asn Val Thr
331 225                 230                 235                 240
334 Ser Thr Ser Leu Asn Pro Lys Ile Gln Ala Glu Ala Lys Thr Asp Tyr
335                 245                 250                 255
338 Glu Arg Lys Lys Ala Ile Phe Glu Glu Ile Val Glu Thr Gln Ile Ile
339             260                 265                 270
342 Thr Leu Lys Thr Phe Leu Glu Ser Asp Leu Lys Lys Ser Gly Ala Met
343         275                 280                 285
346 Ser Gly Ile Glu Ala Glu Tyr Lys Tyr Asp Lys Asp Asn Asn Lys Leu
347     290                 295                 300
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Input Set : A:\Sequence Listing.txt
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350 Gly Asn Phe Ser Thr Ser Val Ser Asp Arg Ser Arg Pro Leu Asn Asp
351 305                 310                 315                 320
354 Leu Val Ser Glu Lys Thr Ala Arg Leu Asn Asp Val Ser Ser Arg Tyr
355                 325                 330                 335
358 Asn Ala Ala Ile Glu Ala Leu Asn Arg Phe Ile Gln Lys Tyr Asp Ser
359             340                 345                 350
362 Ile Met Arg Asp Ile Leu Gly Ala Ile
363         355                 360
366 <210> SEQ ID NO: 9
367 <211> LENGTH: 159
368 <212> TYPE: PRT
369 <213> ORGANISM: Aeromonas salmonicida
371 <400> SEQUENCE: 9
373 Met Gln Thr Asp Thr Thr Leu Thr Pro Glu Tyr Glu Ala Glu Leu Glu
374 1               5                   10                  15
377 Ala Phe Met Ala Asp Gly Gly Thr Leu Ala Met Leu Gln Asp Ile Ser
378             20                  25                  30
381 Gly Asp Thr Leu Glu Gln Leu Tyr Ala Leu Ala Phe Ser Gln Tyr Gln
382         35                  40                  45
385 Ala Gly Lys Trp Glu Asp Ala His Lys Ile Phe Gln Ala Leu Cys Met
386     50                  55                  60
389 Leu Asp His Tyr Glu Pro Arg Tyr Phe Leu Gly Leu Gly Ala Cys Arg
390 65                  70                  75                  80
393 Gln Ala Met Gly Glu Phe Glu Thr Ala Val Gln Ser Tyr Ser Phe Gly
394                 85                  90                  95
397 Ala Met Leu Asp Leu Lys Asp Pro Arg Phe Pro Phe His Ala Gly Glu
398             100                 105                 110
401 Cys Arg Leu Gln Gln Gly Asp Leu Asn Gly Ala Glu Ser Gly Phe His
402         115                 120                 125
405 Ser Ala Arg Leu Leu Ala Asp Thr Asp Pro Gln Gln Ala Asp Leu Ala
406     130                 135                 140
409 Ala Ser Ala Lys Val Met Leu Glu Ala Ile Ala Ile Arg Arg Asp
410 145                 150                 155
413 <210> SEQ ID NO: 10
414 <211> LENGTH: 5678
415 <212> TYPE: DNA
416 <213> ORGANISM: Aeromonas salmonicida
418 <400> SEQUENCE: 10
419 gagctcaagc ggctgatccg cctgctgccg gtggagctgt tcagtgaaga ggagcagcgc     60
421 cagaatctgt tgcagtgctg tcagggtgcg ctcgataacg ccatcgagcg ggaagaggat    120
423 gagttgtctg gagagtcgtc atgaactgga ttgaacccct gctggtgcag ttttgccagg    180
425 atttgggcat caccataggg gataaccccc attcgctgat ccagcttgaa ctggagcaga    240
427 gcggcactct gcagctggag cgccatcagg ggcaactgac cctatggttg gcccgcgccg    300
429 tgccctggca tcagagtggc gaggccattc gccgcgccat gaccttgact gccgcggcgc    360
431 aagggccggc actgccggtg cgcagcggct ggttggggga ggagcagttg atcctcttcg    420
433 tctccctgga tgagcgggcc gtgactctgc cccagctcca tcaggccgtg accaccctga    480
435 cccggttgca gcgagaggtg ctggcgtcat gagccggatc actgccgcgc atatcggtat    540
437 cgagcagctc agcgccatct ccctcgacga tcaggagcgc agcctgccgg ggcgttatgc    600
439 cctgttgccc gatggccagt ccatcgaacc ccatatcagc cgcctctacc ccgagcggct    660
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RAW SEQUENCE LISTING ERROR SUMMARY DATE: 10/28/2005
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Input Set : **A:\Sequence Listing.txt**
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Invalid <213> Response:
Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:11,12,13,14,15

VERIFICATION SUMMARY DATE: 10/28/2005
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